THE BATTLES OF NEIGHBORHOODS

Neighborhood of choice for ACME Grocery Inc. first venture in Toronto.

INTRODUCTION

- Toronto city overview for ACME Grocery

- ACME Grocery Strategic Plan and Overview

- ACME Grocery BusinessProblem
  - Choice of the first neighborhood to offer services.
  - The neighborhood should enable easy replication.
  - The neighborhood should have high demand.
  - The neighborhood should have lower competition.

- Success Criteria:
  - Good recommendation of neighborhood that meets above points.
  - It should have capability to enable latest information whenever required.

DATA DESCRIPTION

- Data Requirements for this project:
    - Neighborhood Information (i.e. name, coordinates, populations).
    - Venue information (i.e. name, category, coordinates)

- Data Sources for this project:
    - Wikipedia Pages
    - Foursquare.com

- Data Processing for this project:
    - Data cleaning is required
    - Data needs to be in a structured format

|	Neighbourhood	Population	Land Area	Density	Population %	Income	Commuting	2nd Language	2nd Language %	Latitude	Longitude
1	Agincourt	44577	12.45	3580	4.6	25,750	11.1	Cantonese (19.3%)	19.3% Cantonese	43.788	-79.2839
2	Alderwood	11656	4.94	2360	-4.0	35,239	8.8	Polish (6.2%)	06.2% Polish	43.6035	-79.5464
3	Alexandra Park	4355	0.32	13,609	0.0	19,687	13.8	Cantonese (17.9%)	17.9% Cantonese	43.6498	-79.4015
4	Allenby	2513	0.58	4333	-1.0	245,592	5.2	Russian (1.4%)	01.4% Russian	43.7077	-79.4127
5	Amesbury	17318	3.51	4,934	1.1	27,546	16.4	Spanish (6.1%)	06.1% Spanish	43.7011	-79.481
6	Armour Heights	4384	2.29	1914	2.0	116,651	10.8	Russian (9.4%)	09.4% Russian	43.7454	-79.4226
7	Banbury	6641	2.72	2442	5.0	92,319	6.1	Unspecified Chinese (5.1%)	05.1% Unspecified Chinese	43.7491	-79.3664
8	Bathurst Manor	14945	4.69	3187	12.3	34,169	13.4	Russian (9.5%)	09.5% Russian	43.7627	-79.4563
9	Bay Street Corridor	4787	0.11	43,518	3.0	40,598	17.1	Mandarin (9.6%)	09.6% Mandarin	43.6567	-79.3835
10	Bayview Village	12280	4.14	2,966	41.6	46,752	14.4	Cantonese (8.4%)	08.4% Cantonese	43.7782	-79.3828

METHODOLOGY

- ## Data Scrapping Technique
  - To scrap the neighborhood data from Wikipedia
  - To make the data into a structured format

- ## Foursquare.com
  - Retrieving venue information from above API.

- ## K-Means Machine Learning
  - Segment and cluster similar neighborhoods
  - Group them based on most common venues

- ## Scoring Weightage
  - Population count has 50% weightage
  - Venue (fewer grocery) has another 50% weightage
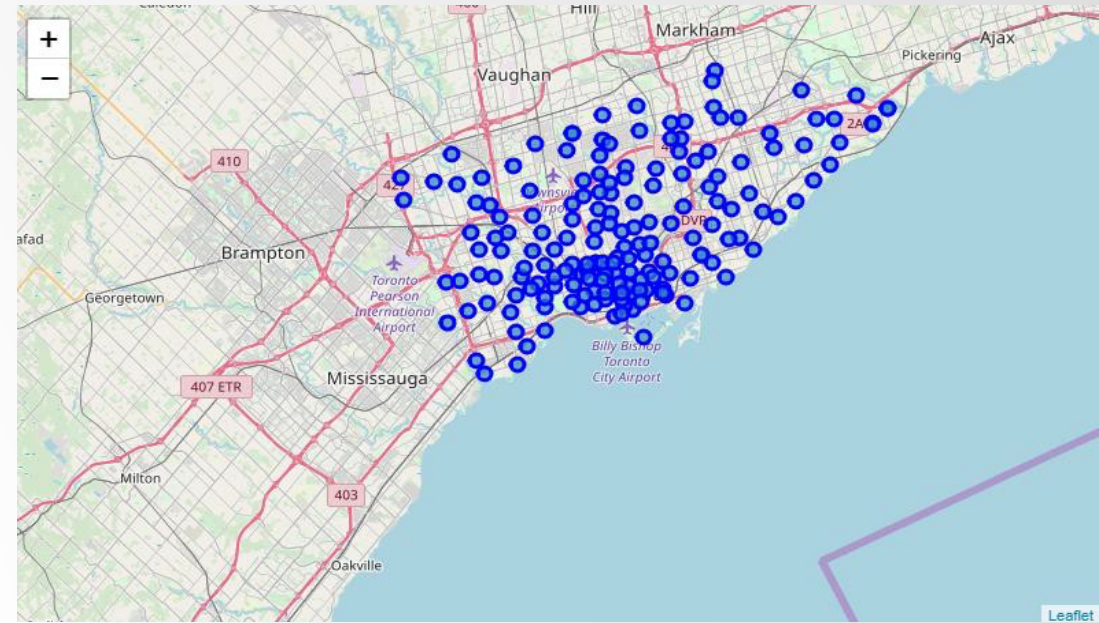
RESULT

- ## Clustering Similar Neighborhoods
  - Grouping based on common venues

- ## Neighborhood with high population
  - Ranking the neighborhoods based on population count

- ## Topmost common venue
  - Ranking the neighborhoods based on common venue w/o Grocery
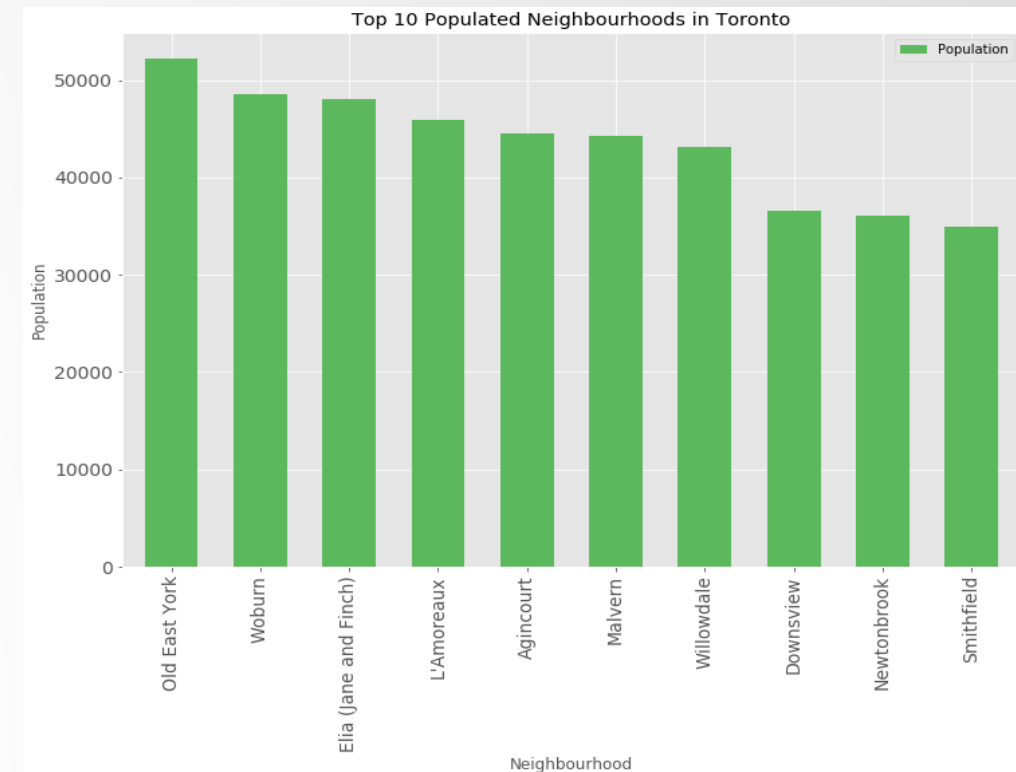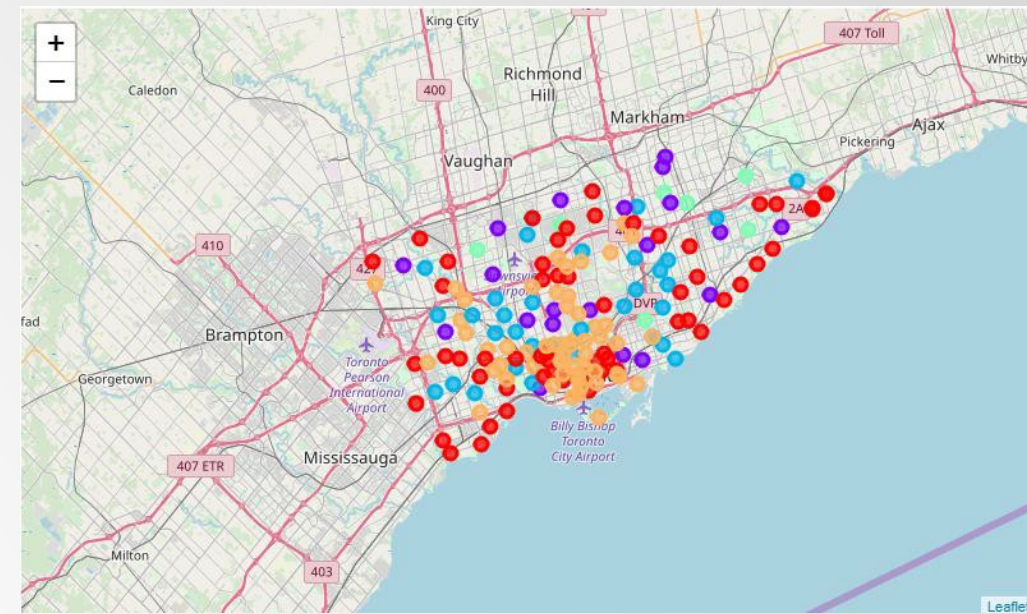
DISCUSSION

- ## Result Review:
  - First cluster looks to offer the best business expansion opportunity.
  - Humbermede neighborhood in the first cluster looks to meet the key business criteria whereby it will offer the highest demand (i.e. high population) and lowest competition (i.e. lower supply).

- ## Additional Observation:
  - High number of Punjabi people.
  - Worthwhile to consider Punjabi food or related supplies offering in this neighborhood.

	Neighbourhood	Population	Income	Commuting	2nd Language	2nd Language %	Latitude	Longitude	Population Score	Venue Score	Total Score
60	Humbermede	14778	24,297	11.8	Punjabi (9.7%)	09.7% Punjabi	43.7421	-79.5407	0.611729	0.0	0.305865
61	St. James Town	14666	22,341	27.4	Filipino (8.1%)	08.1% Filipino	43.6709	-79.3733	0.607093	0.0	0.303547
62	Cliffcrest	14531	38,182	12.5	Tamil (1.5%)	01.5% Tamil	43.7249	-79.2263	0.601505	0.0	0.300752
63	Humber Valley Village	14453	80,618	12.0	Ukrainian (3.9%)	03.9% Ukrainian	43.6671	-79.528	0.598276	1.0	0.799138
64	Harbourfront / CityPlace	14368	69,232	16.0	Unspecified Chinese (2.4%)	02.4% Unspecified Chinese	43.6416	-79.3902	0.594758	0.6	0.597379

CONCLUSION

- Recommendation Summary:
  - Region: First Cluster.
  - Neighborhood: Humbermede
  - Additional Offering: Punjabi food or related supplies.

- Additional Note:
  - Re-run of the program is encouraged to get latest information.
  - Updated information is critical to consider as part of business expansion plan.